Georgia Healthy Homes and Lead Poisoning Prevention Program

Program Overview

House Study Committee / Christy L Kuriatnyk, MSPH, REHS, Program Director / Sept. 2, 2021

Healthy Homes and Lead Poisoning Prevention

Primary function of the program: management of childhood lead poisoning

Overarching strategies:

1. Screening and surveillance
2. Clinical case management and links to care
3. Targeted education and outreach to health care providers, high-risk populations & general public
4. Primary prevention interventions
5. Support compliance and enforcement

Program Organization

History

- 1993: Introduced in Epidemiology Section
- 2000 First Funded by CDC
- Currently CDC Funded with State supplemental funding

Program Organization

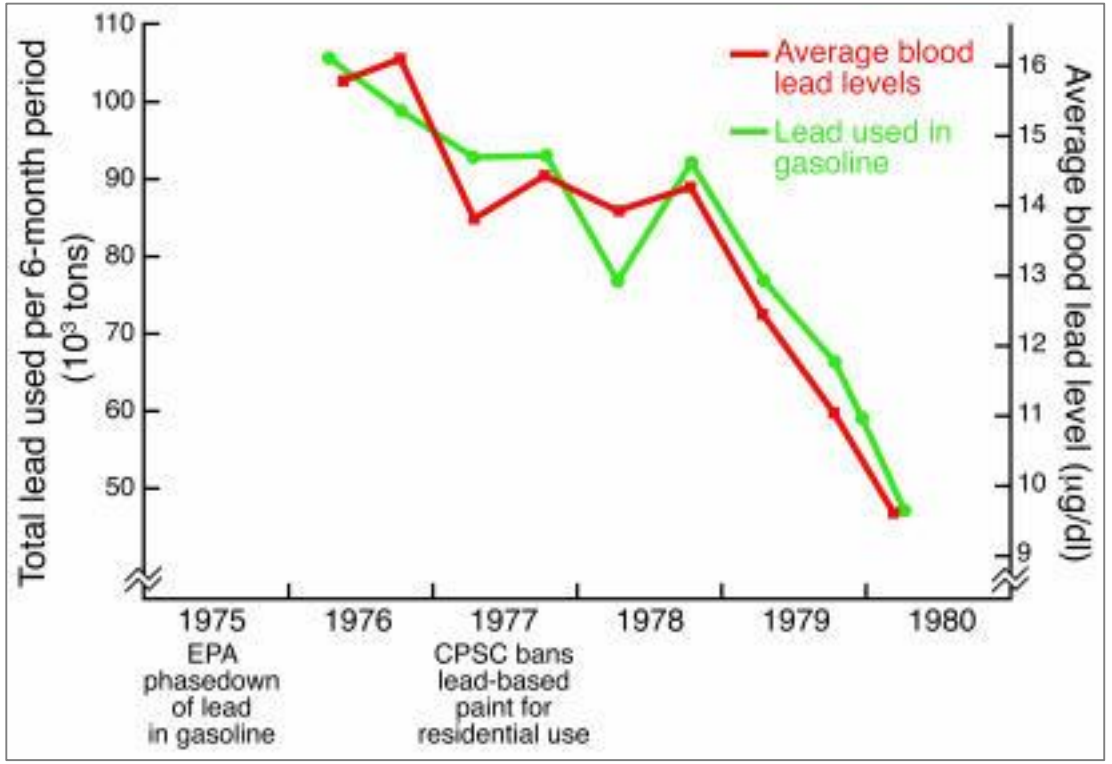
- Georgia Department of Public Health
  - Health Protection Division
  - Environmental Health Section
- Staff
  - Director: Christy Kuriatnyk, MSPH. RS/REHS
  - Epidemiologist: Dr. YU Sun, MD., MPH
  - Field Consultant: Lashanda Lee, MPH
  - Clinical Case Mgr.: Trina Suttles, MPH
  - Program Administrator: Marcia McLeod, BS

Environmental Controls Work

1978 – Lead was removed from residential paint

1986 – Primary phase out of leaded gasoline in the US complete

1994 – Study shows that US blood-lead levels declined by 78 percent from 1978 to 1991



Exposures

Low-level Exposure Effects ≥ 5 µg/dL

- Decline in IQ of 4 to 7 points per 10ug/dl
- Hyperactivity
- Disinterest
- Social withdrawal

Traditional Sources of Exposure

Lead-based paint in deteriorated housing

- Window troughs
- Window sills
- Lead-contaminated dust in the home
- Peeling paint on the porch
- Lead-contaminated soil
- Lead based paint chips, paint dust and soil are the major exposures in Georgia

Percentage of Homes Likely to Contain Lead

Other Uses and Sources of Lead

It's everywhere!

- TV's, Computer monitors
- Batteries, Bullets, Sinkers
- Aviation Fuel
- X-ray shields
- Crystal-ware (high levels in decanters)
- Non-stick linings of pots (in the past)
- Plastic coloring (wire, blinds, toys)
- Pewter
- Cosmetics- surma, kohl
- Folk remedies
- Imported candies
- Jewelry

Mandatory Reporting of Blood Lead Level

NOTIFIABLE DISEASE
CONDITION REPORTING

All Georgia physicians, laboratories, and other health care providers are required by law to report patients with the following conditions.

REPORT IMMEDIATELY

To Report Immediately | Call: District Health Office or **1-866-PUB-HLTH (1-866-782-4584)**

- any cluster of illnesses
- animal bites
- ▸anthrax
- all acute arboviral infections*
- ▸botulism
- ▸brucellosis
- cholera
- diphtheria
- *E. coli* O157
- *Haemophilus influenzae* (invasive)*
- hantavirus pulmonary syndrome
- hemolytic uremic syndrome (HUS)
- hepatitis A (acute)
- measles (rubeola)
- ▸melioidosis
- meningitis (specify agent)
- meningococcal disease (invasive)
- novel influenza A virus infections
- novel respiratory viruses (COVID-19, SARS, MERS, etc.)
- pertussis
- ▸plague
- poliomyelitis
- ▸Q fever
- rabies (human & animal)
- shiga toxin positive tests
- *S. aureus* with vancomycin MIC ≥4µg/ml
- ▸smallpox
- syphilis (adult)
- syphilis during pregnancy
- tuberculosis
- latent TB infection in children<5 years old
- ▸tularemia
- ▸viral hemorrhagic fevers

▸ Potential agent of bioterrorism.
* Invasive= isolated from blood, bone, CSF, joint, pericardial, peritoneal, or pleural fluid.

REPORT WITHIN 1 MONTH

Birth Defects, including fetal deaths of at least 20 weeks gestational age and children under age 6. Information for reporting birth defects is available at **dph.georgia.gov/birth-defect-s-reporting**.

Healthcare-associated Infections (HAIs) For facilities required to report HAI data to CMS via NHSN. Report in accordance with the NHSN protocol. Reporting requirements and information available at **dph.georgia.gov/notifiable-hai-reporting**.

Neonatal Abstinence Syndrome (NAS) Information for reporting NAS is available at **dph.georgia.gov/nas**.

REPORT WITHIN 6 MONTHS

Benign brain and central nervous system tumors

Cancer

Report forms and reporting information for tumors and cancer is available at **dph.georgia.gov/georgia-comprehensive-cancer-registry**.

REPORT WITHIN 7 DAYS

- AIDS#
- acute flaccid myelitis
- anaplasmosis
- aseptic meningitis
- babesiosis
- blood lead level (all)
- campylobacteriosis
- Carbapenem-resistant Enterobacteriaceae (CRE): *Enterobacter* species, *Escherichia coli*, and *Klebsiella* species
- chancroid
- Chlamydia trachomatis (genital infection)
- Creutzfeldt-Jakob Disease (CJD), suspected cases, under age 55
- cryptosporidiosis
- cyclosporiasis
- ehrlichiosis
- giardiasis
- gonorrhea
- HIV infection#
- Perinatal HIV exposure#
- hearing impairment (permanent under age 5)##
- hepatitis B
  - acute hepatitis B
  - chronic HBsAg(+) or HBV DNA detected infections
  - HBsAg(+) pregnant women
  - Perinatal HBV exposure
- hepatitis C (past or present)
  - anti-HCV(+)
  - HCV RNA detected
  - HCV genotype detected
  - anti-HCV(+) or HCV RNA detected pregnant women
  - anti-HCV(+) or HCV RNA detected children ages <3 years
- hepatitis D (Delta virus present with HBsAg); acute and chronic
- hepatitis E (acute)
- influenza-associated death (all ages)
- legionellosis
- leptospirosis
- listeriosis**
- leprosy or Hansen's disease (*Mycobacterium leprae*)
- Lyme disease
- lymphogranuloma venereum
- malaria
- maternal deaths (during pregnancy or within 1 year of end of pregnancy)##
- mumps
- psittacosis
- Rocky Mountain spotted fever
- rubella (including congenital)
- salmonellosis
- shigellosis
- streptococcal disease, Group A or B (invasive)**
- *Streptococcus pneumoniae* (invasive)**
  - report with antibiotic-resistance information
- tetanus
- toxic shock syndrome
- typhoid
- Varicella (Chickenpox)
- Vibrio infections
- yersiniosis

REPORT CASES ELECTRONICALLY THROUGH THE STATE ELECTRONIC NOTIFIABLE DISEASE SURVEILLANCE SYSTEM AT http://sendss.state.ga.us

* California serogroup virus diseases (including: California encephalitis, Jamestown Canyon, Keystone, La Crosse, Snowshoe hare, Trivittatus virus), Chikungunya Virus Disease, Eastern equine encephalitis virus disease, Powassan virus disease, St. Louis encephalitis virus disease, West Nile virus disease, Western equine encephalitis virus disease, Zika Virus Disease
** Invasive = isolated from blood, bone, CSF, joint, pericardial, peritoneal, or pleural fluid.
*** *L. monocytogenes* isolated from blood, bone, CSF, joint, pericardial, peritoneal, or pleural fluid, or other normally sterile site, or from placenta or products of conception in conjunction with fetal death or illness. Infant mortality is reportable to Vital Records.

REPORTING FOR OTHER CONDITIONS:

Report forms and reporting information for HIV/AIDS available by phone (**1-800-827-9969**) OR online (**dph.georgia.gov/georgia-hivaids-epidemiology-surveillance-section**).
For mailing HIV/AIDS reports, please use double envelopes marked "confidential", addressed to Georgia Department of Public Health Epidemiology Section, P.O. Box 2307, Atlanta, GA 30301
Report forms and reporting information for maternal deaths and hearing impairment (permanent, under age 5) available at **dph.georgia.gov/documents/forms-surveys-and-documents**.

For more information:
www.dph.ga.gov/disease-reporting

DPH
GEORGIA DEPARTMENT OF PUBLIC HEALTH

REPORT WITHIN 7 DAYS

AIDS#
acute flaccid myelitis
anaplasmosis
aseptic meningitis
babesiosis
blood lead level (all)
campylobacteriosis
Carbapenem-resistant Enterobacteriaceae (CRE):
–anti-HCV(+) or HCV RNA detected children ages <3 years
hepatitis D (Delta virus present with HBsAg); acute and chronic
hepatitis E (acute)
influenza-associated death (all ages)

- Lead screening data submitted from public labs, commercial labs and doctor's offices.
- Lead surveillance system: DPH's State Electronic Notifiable Disease Surveillance System(SENDSS) electronic reporting.

Screening for Lead Levels in Children

The only way a child can be diagnosed with lead poisoning is through blood testing.

DPH Recommendation: testing at ages 1 and 2 (Medicaid Requirement) and age 5 if not previously tested.

Confirmed Elevated Blood Lead Level (EBLL) means one venous blood draw or 2 capillary blood draws (within 3 mos. apart) which are lab analyzed.

Georgia Code § 31-41-12. Definitions (2008)

As used in this article, the term:

(1) "Confirmed lead poisoning" means a confirmed concentration of lead in whole blood equal to or greater than 20 micrograms of lead per deciliter for a single test or between 15 and 19 micrograms of lead per deciliter in two tests taken at least three months apart.

DPH provides services for EBL children at 5 ug/dl and 10 ug/dl

Blood Lead Levels and DPH's Response

CDC Reference Level: The level based on the U.S. population of children ages 1-5 years who are in the top 2.5% of children when tested for lead in their blood. (NHANES Measure)

5 ug/dl – CDC Reference Level

DPH Response: Letter with exposure prevention and nutrition information to parents

10 ug/dl - Georgia's "Environmental Intervention Blood Lead Level" (EIBLL)

DPH Response: Environmental Risk Assessment will be conducted by a DPH certified Lead Inspector/Risk Assessor in the child's home. Confirmed.

O.C.G.A 31-41: Lead Poisoning Prevention Law

DPH Performs a RA at an EBL 10 ug/dl

The Georgia Childhood Lead Exposure Control law has not kept pace with the current science and research of lead exposure health effects. The CDC recommends that public health action be taken for exposures to lead at 5ug/dL or more. CDC recommends an in-home (environmental) investigation at 5 ug/dl BLL.

However, the current law requires a child's lead exposure to reach 15-20 ug/dL before DPH can take regulatory action to ensure lead hazards are mitigated in a rental home.

In other words, **Georgia's children must show blood lead levels 3-4 times higher than the current CDC recommended public health action level.**

Childhood Lead Poisoning Risk Factors

Child's Age - behavioral

Age of Housing - pre 1978

Poverty - housing quality & nutrition

Medicaid Eligibility – poverty indicator

Region - urban vs. rural

Race/Ethnicity – data indicated

EBL Children and Future Outcomes

In June 2020, Case Western Reserve University in Ohio released a study following 10,000 children who experienced elevated blood-lead levels before age 3 through age 23, using public data to create a record of their life.

Adults who had experienced childhood lead poisoning were more likely to be incarcerated, experience homelessness and rely on public assistance than children without.

Cost calculations limited to lost future income resulting from decreased IQ

Canfield et al. (2003) calculated for every 1 µg/dL increase in blood lead levels, 0.47 IQ points are lost

For every IQ point lost, there is a 2.39% decrease in lifetime earnings (Landrigan et al., 2002)

Lost Future Income Due to Decreased IQ

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Costs to Society

According to the CDC, the cost of childhood lead poisoning to the United States is $50 billion and much of these costs are paid for by Medicaid.

According to the CDC, a lead poisoned child may cost over $5,600 in medical treatment and special education costs.

For every $1 invested in reducing lead hazards in the home, there is a $17-$221 return on investment. (Source AAP)

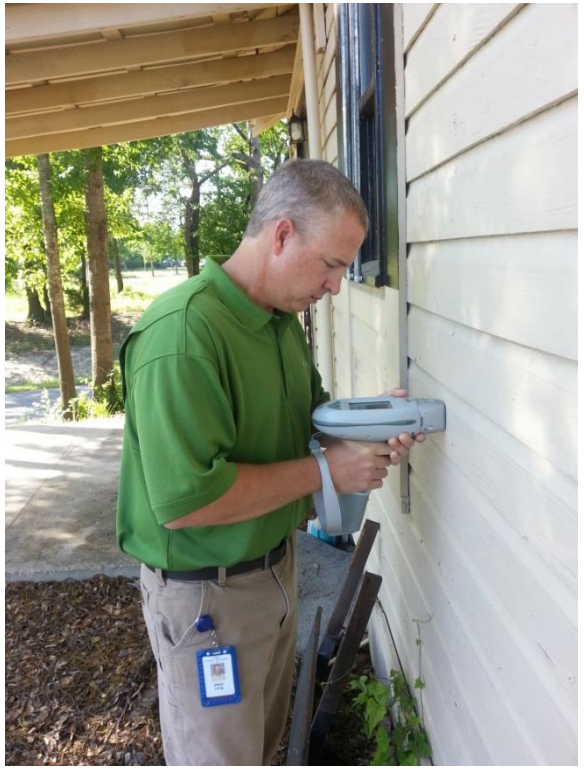
Source: CDC & American Academy of Pediatricians (2020)

Lead Paint Inspection & Home Risk Assessment Capacity

7 Regional Lead Coordinators/Regional Healthy Homes Coordinators

- State & federally funded

43 Certified Lead Risk Assessors / Inspectors throughout Georgia



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